



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,950	03/27/2001	Paul M. Guyre	DC-0153	4097
26259	7590	04/06/2006	EXAMINER	
LICATLA & TYRRELL P.C. 66 E. MAIN STREET MARLTON, NJ 08053			BELYAVSKYI, MICHAEL A	
			ART UNIT	PAPER NUMBER

1644

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,950

Applicant(s)

GUYRE ET AL.

Examiner

Michail A. Belyavskiy

Art Unit

1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment, filed on 02/01/06 is acknowledged.

Claims 1-3 are pending.

In view of the amendment filed 02/01/06 the following rejection remains:

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Coligan et al. (Current Protocols in Immunology, Greene Publishing Associates and Wiley-Interscience, New York, 1991; pages 2.1.1-2.1.3, 2.1.9-2.1.11, and 2.1.17-2.1.22) in view of U.S. Patent 5,077,216, Zwadlo et al (IDS Reference BA) Zwadlo et al (IDS Reference AX) and newly cited Hogger et al (Pharmaceutical Research, 1998, Vol.15, pages 296-302) as is evidenced by Sulahian et al (Cytokine, 2000, Vol.12, pages 1312-1321) for the same reasons set forth in the previous Office Action, mailed on 10/21/05.

Applicant's arguments filed 02/01/06 have been fully considered but they are not persuasive.

Art Unit: 1644

Applicant asserts that : (i) US Patent '216 is not a valid prior art because at the time of filing of the present application, the inventors of the instant application and US Patent '216 had a common obligation to assign to the Trustees of Dartmouth College; (ii) Sulahian et al., is not valid prior art reference as it was published in September 2000; (iii) none of the references teach that CD163 is useful for monitoring an early signaling event, i.e. within the first 1-12 hours in an inflammatory response cascade in a patient; (iv) Zwadlo et al. teaches away from the present invention in teaching that the RM3/1 antigen (i.e. CD163) is appearing in blood at 24 and 72 hours after exposure to the inflammatory stimulus, thus there is no motivation for the skilled artisan to modify the teaching in the art to monitor CD163 levels before 24 hours after exposure to the inflammatory stimulus, v) In view of teaching of Arondel et al., one of skill in the art could not reasonably extrapolate the levels of CD163 at 1 to 12 hours after exposure to an inflammatory stimulus based upon the teaching of Zwadlo et al.

Applicant is attempting to exclude US Patent '216 as 102(e) type prior art. However, US Patent '216 has been issued on 12/31/1991, while the effective US filing date of the instant application is 03/28/2000, thus US Patent '216 is qualifies as 102(b) type prior art reference. Since US Patent '216 is qualifies as 102(b) type prior art reference the exclusion does not apply.

With regards to the comments that Sulahian et al., is not valid prior art reference as it was published in September 2000.

Contrary to applicant's assertion, it is noted that Sulahian et al., has been used as evidential reference, not as prior art reference. It is well settled that references which do not qualify as prior art because they post date the claim invention may be relied upon to show the level of ordinary skill in the art at or around the time the invention was made *Ex parte Erlich*, 22USPQ 1463 (Bd.Pat.APP&Inter.1992); MPEP 2124.

Applicants have traversed the primary and the secondary references pointing to the differences between the claims and the disclosure in each reference. Applicant is respectfully reminded that the rejection is under 35 USC103 and that unobviousness cannot be established by attacking the references individually when the rejection is based on the combination of the references. see *In re Keller*, 642 F.2d 4B, 208 USPQ 871, 882 (CCPA 1981) See MPEP 2145. This applicant has not done, but rather argues the references individually and not their combination. One cannot show non-obviousness by attacking references individually where the rejections are based on a combination of references. *In re Young* 403 F.2d 759, 150 USPQ 725 (CCPA 1968).

Coligan et al., teach an antibody-sandwich ELISA to detect soluble antigens, which is the most useful of the immunosorbent assays for detecting antigen because it is very sensitive (see page 2.1.9 in particular), plates are coated with a specific capture antibody, test samples added, and soluble antigens are detected with another antibody. A developing reagent is added to detect antibody/antigen complexes (see page 2.1.0 in particular). Coligan et al. teach that ELISAs are useful for screening biological fluids (e.g. from plasma) for antigen content (see page 2.1.20, left column in particular).

Art Unit: 1644

Coligan et al. do not teach a method for detecting an early signaling event in an inflammatory response, comprising detecting CD163 with antibodies directed against CD163, wherein said antibody is monoclonal antibodies MAC2-158, or MAC2-48.

The US Patent '216 teaches a method of detecting a p155 human mononuclear phagocyte-specific antigen using the monoclonal antibodies MAC2-158 and MAC2-48 (see columns 1, 7, 12, and the claims in particular). The monocytes detected were obtained from human plasma (see column 5, paragraphs 1-2 in particular).

Zwaldo et al. (IDS Reference BA) teach that RM3/1 antigen (i.e. CD163 antigen) is useful for monitoring an early signaling event in an inflammatory response in a patient. The examiner disagrees with Applicant interpretation that Zwaldo et al. teaches away from the present invention in teaching that the RM3/1 antigen (i.e. CD163) is appearing late in the inflammatory response. Zwaldo et al. teach that the levels of RM3/1 antigen (i.e. CD163) reached a maximum levels late in the inflammatory response. However, Applicants attention is drawn to pages 299, 301 and 303, wherein Zwaldo et al. explicitly teach that depending on the stage of inflammation RM3/1 antigen is expressed at different levels. Zwaldo et al. explicitly teach that in acute inflammation, i.e. early in an inflammatory response, RM3/1 antigen expressed to varying degree, depending on the stage of inflammation. In addition, Zwaldo et al., (IDS Reference AX) teach to monitor the appearance of RM3/1 positive macrophages in blood between 24 and 72 hr post inflammatory response (see abstract in particular).

It would be immediately obvious to one skilled in the art that Zwaldo et al., teach that detection of the expression of RM3/1, i.e. CD163 is useful for monitoring an early signaling event in an inflammatory response. Moreover, as is evidenced by Sulahian et al., based on the teaching of Zwaldo et al., it has been suggested that CD163 bright macrophages play a role in the resolution of inflammation as they are found in high numbers in inflammation tissues. It is noted that applicants are co-authors of Sulahian et al., reference.

Moreover, the examiner disagreed with Applicant's interpretation of Arondel et al. reference. There is no teaching in said references that early signaling events in an inflammatory response cascade can not be extrapolated by measuring protein levels at 0 and at 24 hr or later. Arondel et al. monitor the balance of the expression levels between two different signals, i.e. inductive and inhibitory signals of inflammation. Arondel et al., teach that in addition to higher expression of IL1, M90T also caused a decrease in expression of IL-1ra, at 4 hr after infection, that at 8 hr p.i. was caught up probably due to massive recruitment of producing cells in infected zone, thereby restoring IL-1/IL-1ra balance. However, it is noted that Arondel et al., teaching is irrelevant for the instant application, since the instant claims do not recite measuring the ratio between inductive and inhibitory signals.

Hogger et al., teach that injection of glucocorticoids into primates or human volunteers results in an increase of RM3/1 positive blood monocytes within 6 hr. Hogger et al., also teach that monocytes expressing RM3/1 antigen i.e. CD163, are also present in acute inflammation (see

Art Unit: 1644

entire document, page 296 in particular). Hogger et al., teach that the level of expression of RM3/1 antigen i.e. CD163, can be measured by antibody labeling and subsequent FACS analysis (see page 302 in particular). In other words, it would be immediately obvious to one skill in the art that Hogger et al., teach that expression of RM3/1 antigen i.e. CD163 is an indicative of an early signaling event in the inflammatory response.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the MAC2-158 or MAC2-48 antibodies as capture antibodies taught by the '216 patent and the antibodies taught by Zwaldo et al., as the detection antibody in the ELISA assay taught by Coligan et al. to have a method for monitoring the course of an inflammatory condition or inflammatory response in a patient by detecting the levels of CD163 in the biological sample as taught by Zwaldo and Hogger et al.

One of ordinary skill in the art would have been motivated to use the antibodies taught by the '216 patent and Zwaldo et al. in the ELISA taught by Coligan et al. because to detect and monitor the presence of CD163 in a biological sample, such as human plasma, during an early inflammatory condition/process, such as rheumatoid arthritis by detecting CD163 (i.e. RM3/1 antigen) as taught by Zwaldo et al and Hogger et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to do so, because detecting CD163 levels can be used to monitor an early inflammatory response cascade in the patient, as taught by Zwaldo et al and Hogger et al. . CD163 levels in biological sample can be detected using the antibodies taught by the '216 patent and Zwaldo et al. in the ELISA taught by Coligan et al.

From the combined teaching of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention.

Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

4. THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1644

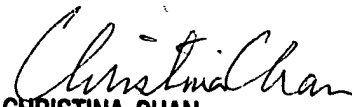
5. No claim is allowed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michail Belyavskyi whose telephone number is 571/272-0840. The examiner can normally be reached Monday through Friday from 9:00 AM to 5:30 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571/272-0841.

The fax number for the organization where this application or proceeding is assigned is 571/273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michail Belyavskyi, Ph.D.
Patent Examiner
Technology Center 1600
April 3, 2006


CHRISTINA CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600